

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332305

Luminaire Tested: **S123RDIP-S775D365U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332305
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S775D365U835-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4231.3 lumens
Efficiency: N/A
Efficacy: 120.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

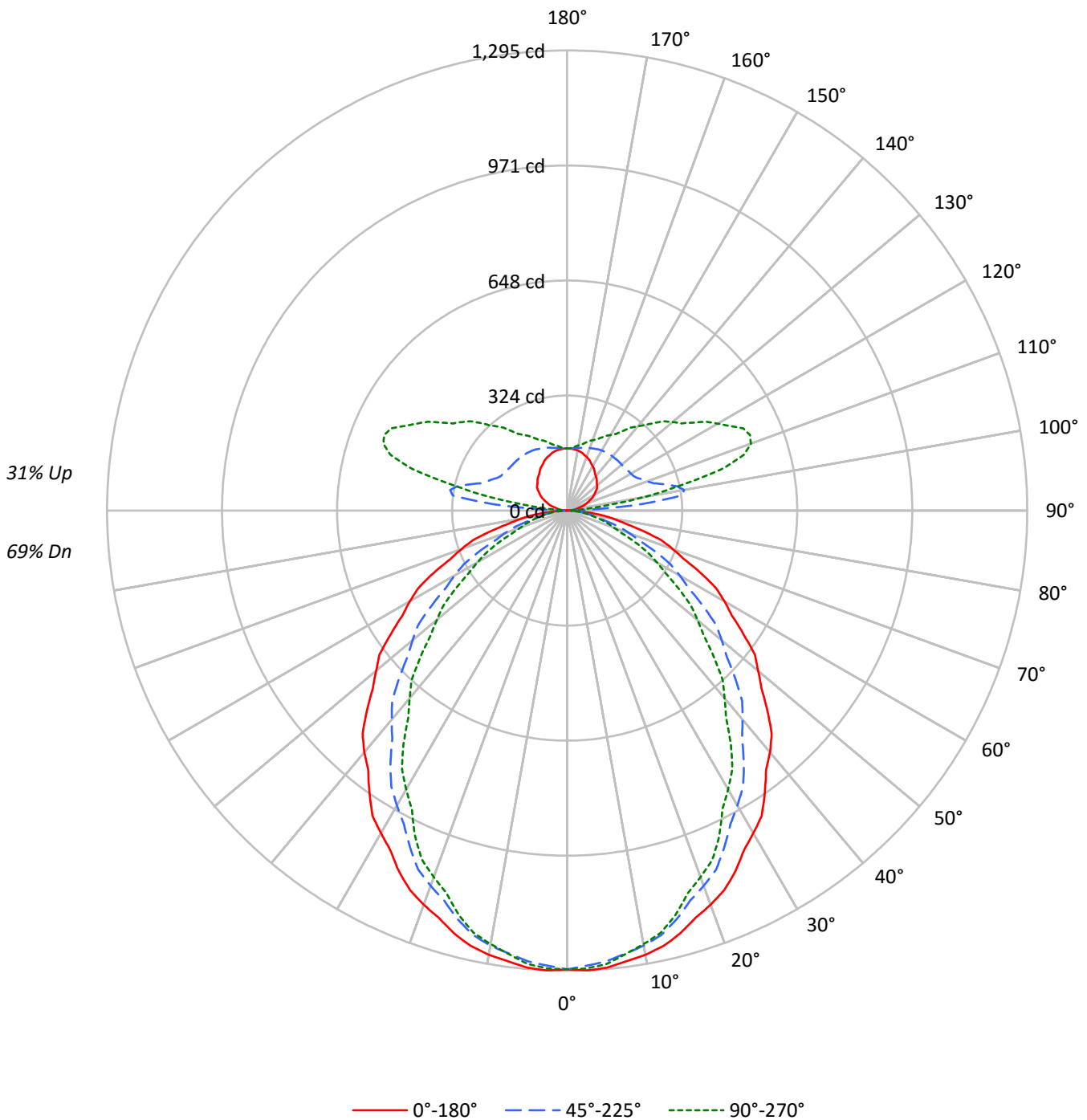
Input Watts (W): 35
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0													
RCR																																					
0	112	112	112	112	105	105	105	105	94	94	94	83	83	83	74	74	74	69																			
1	102	98	94	91	97	93	90	87	83	81	78	74	72	70	66	64	63	59																			
2	94	86	80	75	88	82	76	72	73	69	66	66	62	60	58	56	54	50																			
3	86	76	69	63	81	72	66	61	65	60	56	58	54	51	52	49	46	43																			
4	79	68	60	54	74	65	57	52	58	52	48	52	48	44	47	43	40	37																			
5	73	61	53	47	68	58	50	45	52	46	42	47	42	38	42	38	35	33																			
6	67	55	47	41	63	52	45	39	47	41	37	43	38	34	39	35	31	29																			
7	62	50	42	36	59	47	40	35	43	37	33	39	34	30	35	31	28	26																			
8	58	45	37	32	55	43	36	31	40	33	29	36	31	27	33	28	25	23																			
9	54	42	34	29	51	40	33	28	36	30	26	33	28	25	30	26	23	21																			
10	51	38	31	26	48	37	30	25	34	28	24	31	26	22	28	24	21	19																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13897	13897	13897
5°	13950	13758	13837
10°	13871	13585	13539
15°	13722	13266	13127
20°	13518	12869	12569
25°	13307	12423	12025
30°	13027	11908	11257
35°	12741	11393	10553
40°	12476	10784	9681
45°	12129	10185	8894
50°	11747	9503	8013
55°	11357	8724	7191
60°	11001	7890	6288
65°	10534	6986	5387
70°	9951	5866	4349
75°	9100	4616	4092
80°	8114	4091	3763
85°	6854	3619	3359



TEST NUMBER: P332305

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.2	2.9
10°-20°	337.3	8.0
20°-30°	485.7	11.5
30°-40°	547.1	12.9
40°-50°	523.4	12.4
50°-60°	428.6	10.1
60°-70°	289.2	6.8
70°-80°	145.5	3.4
80°-90°	39.8	0.9
90°-100°	97.2	2.3
100°-110°	275.1	6.5
110°-120°	270.6	6.4
120°-130°	215.9	5.1
130°-140°	170.2	4.0
140°-150°	127.0	3.0
150°-160°	88.5	2.1
160°-170°	52.0	1.2
170°-180°	16.9	0.4
0°-30°	944.3	22.3
0°-40°	1491.4	35.2
0°-60°	2443.4	57.7
0°-90°	2917.9	69.0
90°-120°	642.9	15.2
90°-150°	1155.9	27.3
90°-180°	1313.0	31.0
0°-180°	4231.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1291	1291	1291	1291	1291	
5°	1291	1285	1273	1282	1281	122
15°	1231	1219	1190	1185	1178	347
25°	1120	1093	1046	1025	1012	515
35°	970	930	867	823	803	607
45°	797	748	669	611	584	615
55°	605	552	465	406	383	542
65°	414	355	274	225	212	409
75°	219	168	111	101	98	233
85°	56	34	29	27	27	62
90°	1	4	9	10	10	4
95°	12	39	210	61	41	13
105°	41	61	284	497	450	44
115°	72	90	217	477	547	72
125°	101	119	203	368	431	89
135°	118	141	200	303	350	91
145°	135	154	198	248	273	84
155°	153	165	191	217	226	70
165°	167	172	183	194	198	47
175°	174	174	176	178	178	17
180°	175	175	175	175	175	



TEST NUMBER: P332305

CATALOG NUMBER: S123RDIP-S775D365U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1
2.5°	1295.2	1294.5	1293.7	1293.0	1292.3	1290.8	1288.5	1286.3	1284.1	1281.8	1283.9
5°	1291.1	1289.9	1288.7	1287.6	1286.4	1284.4	1281.6	1278.8	1276.0	1273.3	1275.3
7.5°	1279.1	1277.9	1276.6	1275.3	1274.1	1271.6	1268.0	1264.4	1260.8	1257.1	1258.3
10°	1269.1	1267.4	1265.8	1264.2	1262.5	1259.6	1255.4	1251.3	1247.1	1242.9	1243.1
12.5°	1254.8	1253.0	1251.2	1249.4	1247.6	1244.1	1239.0	1233.9	1228.7	1223.6	1223.5
15°	1231.4	1228.8	1226.2	1223.7	1221.1	1216.6	1210.1	1203.6	1197.0	1190.5	1189.4
17.5°	1201.8	1198.9	1195.9	1192.9	1189.9	1184.3	1176.0	1167.7	1159.4	1151.2	1148.7
20°	1180.1	1176.3	1172.6	1168.9	1165.2	1158.9	1150.0	1141.2	1132.4	1123.5	1120.5
22.5°	1155.8	1151.5	1147.2	1142.9	1138.6	1131.8	1122.4	1113.0	1103.6	1094.2	1090.4
25°	1120.4	1114.6	1108.7	1102.9	1097.1	1088.8	1078.1	1067.4	1056.7	1046.0	1041.1
27.5°	1077.4	1071.0	1064.6	1058.2	1051.8	1042.6	1030.7	1018.8	1006.8	994.9	988.1
30°	1048.1	1041.1	1034.2	1027.2	1020.2	1010.2	997.2	984.1	971.1	958.1	950.2
32.5°	1018.8	1010.9	1003.0	995.1	987.2	976.3	962.5	948.8	935.0	921.2	912.6
35°	969.6	961.2	952.8	944.5	936.1	924.7	910.3	895.8	881.4	867.0	857.0
37.5°	919.8	910.4	901.1	891.8	882.5	870.2	854.8	839.4	824.0	808.6	797.2
40°	887.9	877.7	867.4	857.2	847.0	833.6	817.1	800.6	784.0	767.5	755.4
42.5°	851.9	841.7	831.4	821.2	811.0	797.3	780.2	763.1	746.1	729.0	715.8
45°	796.8	786.4	775.9	765.4	754.9	740.8	722.8	704.9	687.0	669.1	655.8
47.5°	741.8	730.3	718.8	707.3	695.8	681.1	663.2	645.2	627.3	609.4	595.0
50°	701.5	690.6	679.7	668.7	657.8	642.9	624.1	605.2	586.4	567.5	553.1
52.5°	665.5	653.7	641.8	629.9	618.1	602.8	584.1	565.5	546.8	528.1	513.2
55°	605.2	593.8	582.4	571.0	559.6	544.0	524.2	504.5	484.7	464.9	451.4
57.5°	549.5	537.1	524.7	512.2	499.8	483.7	463.8	443.9	424.0	404.2	391.4
60°	511.0	498.2	485.4	472.6	459.8	443.7	424.4	405.1	385.8	366.5	353.9
62.5°	472.4	459.6	446.8	434.0	421.3	405.2	385.9	366.6	347.3	327.9	316.1
65°	413.6	400.8	388.0	375.2	362.4	346.9	328.8	310.6	292.5	274.3	262.9
67.5°	354.8	341.8	328.9	315.9	303.0	287.8	270.4	253.0	235.6	218.2	209.7
70°	316.2	303.7	291.1	278.5	266.0	251.5	235.2	219.0	202.7	186.4	178.2
72.5°	277.7	265.3	252.9	240.5	228.2	214.6	199.8	185.0	170.2	155.4	148.7
75°	218.8	207.7	196.5	185.3	174.2	162.2	149.4	136.6	123.8	111.0	108.7
77.5°	165.2	155.1	145.0	134.9	124.8	115.7	107.4	99.2	91.0	82.7	81.5
80°	130.9	121.3	111.8	102.3	92.7	85.5	80.6	75.7	70.9	66.0	65.3
82.5°	98.2	90.0	81.7	73.5	65.3	60.0	57.7	55.4	53.2	50.9	50.2
85°	55.5	50.4	45.3	40.1	35.0	32.1	31.4	30.7	30.0	29.3	28.9
87.5°	20.2	18.3	16.4	14.6	12.7	11.8	12.0	12.2	12.4	12.7	12.4
90°	0.7	1.4	2.1	3.2	3.9	4.6	5.7	6.7	7.8	8.8	8.5
92.5°	4.4	6.5	9.5	12.2	15.2	20.4	29.7	44.9	59.8	54.3	41.0
95°	12.0	13.1	17.0	23.0	32.2	45.9	76.0	128.6	186.6	209.6	170.0
97.5°	20.5	20.8	23.9	29.1	38.2	53.1	81.8	141.1	237.8	324.8	347.4
100°	26.2	26.5	29.0	33.9	42.4	56.2	80.9	133.2	226.2	334.7	404.3
102.5°	32.1	32.7	34.9	39.6	47.2	59.9	82.1	126.4	209.2	316.3	407.1
105°	41.0	42.1	44.2	48.4	55.1	66.1	85.2	121.6	188.4	284.1	385.5
107.5°	50.5	51.5	53.6	57.7	64.0	74.2	91.0	121.2	175.1	255.7	347.8
110°	57.2	58.3	60.1	64.0	70.0	79.9	95.8	122.6	170.0	239.6	324.1



TEST NUMBER: P332305

CATALOG NUMBER: S123RDIP-S775D365U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	63.5	64.5	66.3	70.2	76.2	85.8	100.6	125.5	167.1	228.8	303.4
115°	72.4	73.9	76.0	79.5	85.5	95.1	108.5	130.0	166.1	217.3	278.5
117.5°	81.4	83.0	84.8	88.1	94.8	103.6	116.9	136.1	166.7	210.5	263.4
120°	87.6	88.7	90.5	94.0	100.7	109.5	122.3	140.6	167.9	207.4	255.5
122.5°	93.0	94.1	95.8	99.7	106.1	115.5	127.9	144.9	169.8	205.5	249.0
125°	100.7	101.4	103.5	107.4	114.1	123.7	136.1	151.6	172.8	202.8	240.7
127.5°	106.6	107.6	110.3	114.2	121.6	131.2	143.1	157.1	176.2	201.6	233.3
130°	110.3	111.3	114.5	118.7	126.2	135.7	147.4	160.8	178.5	200.7	229.3
132.5°	113.1	114.4	117.9	123.0	130.4	139.7	151.0	164.2	180.2	200.4	225.7
135°	118.0	119.4	123.3	128.6	136.1	145.6	156.5	168.6	182.7	200.0	220.9
137.5°	122.7	124.2	128.0	133.6	141.0	149.8	160.4	171.8	184.4	199.2	216.7
140°	125.8	127.6	131.1	136.8	143.8	152.7	162.9	173.5	185.5	199.0	214.1
142.5°	129.2	130.7	134.5	139.6	146.7	154.9	164.9	175.2	186.4	198.4	211.9
145°	134.6	135.7	138.9	144.2	150.2	158.3	167.5	177.0	186.9	197.5	208.8
147.5°	140.2	140.8	143.9	148.5	154.3	161.2	169.6	178.2	186.9	196.2	205.9
150°	143.8	144.2	147.0	151.6	156.5	162.9	171.0	178.5	186.9	195.1	203.9
152.5°	147.5	147.6	150.4	154.4	158.8	164.9	171.9	179.0	186.1	193.7	201.6
155°	153.0	153.0	155.1	158.7	162.6	167.5	173.5	179.2	185.2	191.2	198.2
157.5°	157.4	157.7	159.4	162.5	165.8	169.6	174.4	179.5	184.0	189.0	194.4
160°	160.8	160.8	162.2	165.0	167.5	171.0	175.3	179.5	183.4	187.3	191.9
162.5°	163.3	163.3	164.5	166.7	168.9	171.9	175.6	179.2	182.3	185.6	189.3
165°	167.1	166.8	167.5	169.3	170.7	173.2	176.0	178.5	180.6	183.1	185.9
167.5°	170.0	169.6	170.0	171.3	172.3	173.9	175.9	177.9	178.9	180.5	182.6
170°	171.7	171.0	171.4	172.4	173.2	173.9	175.6	177.0	177.8	178.8	180.6
172.5°	172.9	172.4	172.5	173.3	173.7	174.1	175.6	176.8	176.9	177.4	178.6
175°	174.2	173.9	173.5	174.2	174.2	174.6	175.3	176.0	175.6	175.6	176.3
177.5°	174.9	174.6	174.3	174.6	174.6	174.6	174.9	175.4	174.9	174.6	174.9
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6



TEST NUMBER: P332305

CATALOG NUMBER: S123RDIP-S775D365U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1
2.5°	1285.9	1288.0	1290.0	1290.9	1290.5	1290.1	1289.7	1289.4
5°	1277.4	1279.5	1281.6	1282.4	1282.0	1281.5	1281.0	1280.6
7.5°	1259.5	1260.6	1261.8	1262.0	1261.2	1260.4	1259.6	1258.8
10°	1243.4	1243.6	1243.8	1243.4	1242.2	1241.0	1239.9	1238.7
12.5°	1223.3	1223.2	1223.1	1222.3	1221.0	1219.6	1218.3	1216.9
15°	1188.2	1187.0	1185.9	1184.5	1182.9	1181.2	1179.6	1178.0
17.5°	1146.2	1143.8	1141.3	1138.9	1136.4	1134.0	1131.6	1129.2
20°	1117.5	1114.4	1111.4	1108.5	1105.7	1102.9	1100.1	1097.3
22.5°	1086.7	1082.9	1079.1	1075.9	1073.3	1070.7	1068.1	1065.5
25°	1036.3	1031.4	1026.5	1022.8	1020.2	1017.6	1015.1	1012.5
27.5°	981.3	974.6	967.8	962.4	958.5	954.6	950.7	946.8
30°	942.3	934.3	926.4	920.6	916.9	913.2	909.4	905.7
32.5°	903.9	895.3	886.6	880.3	876.4	872.5	868.6	864.7
35°	847.0	837.0	827.0	819.9	815.7	811.5	807.3	803.1
37.5°	785.8	774.5	763.1	754.9	749.7	744.5	739.4	734.2
40°	743.3	731.2	719.1	710.4	705.0	699.7	694.3	689.0
42.5°	702.5	689.3	676.1	667.1	662.3	657.5	652.7	647.9
45°	642.6	629.3	616.0	606.6	601.0	595.4	589.9	584.3
47.5°	580.5	566.1	551.7	542.0	537.0	532.0	527.1	522.1
50°	538.7	524.2	509.8	499.9	494.6	489.2	483.9	478.5
52.5°	498.2	483.2	468.2	458.3	453.5	448.7	443.9	439.1
55°	437.9	424.4	410.9	401.8	397.2	392.5	387.9	383.2
57.5°	378.7	365.9	353.2	344.8	340.9	336.9	332.9	329.0
60°	341.3	328.8	316.2	308.0	304.0	300.0	296.1	292.1
62.5°	304.3	292.5	280.7	272.7	268.5	264.4	260.3	256.1
65°	251.5	240.1	228.7	221.7	219.2	216.6	214.1	211.5
67.5°	201.2	192.7	184.1	178.5	175.8	173.0	170.3	167.5
70°	170.1	161.9	153.8	148.5	145.9	143.3	140.8	138.2
72.5°	142.1	135.4	128.8	124.9	123.8	122.8	121.7	120.6
75°	106.3	104.0	101.7	100.3	99.8	99.4	98.9	98.4
77.5°	80.2	78.9	77.7	76.8	76.4	75.9	75.4	75.0
80°	64.6	63.9	63.2	62.6	62.1	61.7	61.2	60.7
82.5°	49.5	48.8	48.1	47.7	47.6	47.5	47.4	47.3
85°	28.4	27.9	27.5	27.2	27.2	27.2	27.2	27.2
87.5°	12.3	12.2	12.1	12.0	11.8	11.6	11.5	11.3
90°	8.8	9.2	9.5	10.2	9.9	10.2	10.6	10.2
92.5°	29.8	23.6	20.8	19.0	18.4	17.3	17.7	17.0
95°	127.2	86.2	67.5	54.8	48.1	44.9	42.4	41.0
97.5°	317.1	254.0	208.4	166.2	140.1	124.2	114.6	111.6
100°	416.6	388.0	346.7	296.5	260.8	235.0	221.2	221.6
102.5°	449.7	448.8	424.7	392.9	365.1	344.7	333.2	325.0
105°	459.4	494.7	501.4	492.3	476.0	462.6	451.3	449.5
107.5°	431.5	488.9	519.9	532.5	532.8	528.2	524.4	521.2
110°	405.0	470.0	514.5	539.3	549.2	552.0	551.3	550.6



TEST NUMBER: P332305

CATALOG NUMBER: S123RDIP-S775D365U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	378.7	445.1	495.0	526.8	544.9	553.7	556.4	556.5
115°	343.8	405.3	457.3	495.8	522.3	537.8	544.9	546.7
117.5°	318.6	371.7	418.3	457.4	485.1	502.9	513.0	515.4
120°	305.3	353.0	395.4	431.1	459.0	478.8	487.3	489.4
122.5°	294.9	338.0	377.3	410.5	435.3	453.1	462.4	465.1
125°	280.9	319.5	353.4	381.7	404.3	419.8	428.7	431.1
127.5°	268.8	303.1	333.7	359.5	379.6	392.9	400.9	403.1
130°	261.1	293.0	321.6	345.6	364.3	377.1	384.5	387.3
132.5°	254.1	283.3	310.0	332.9	350.5	363.2	369.8	371.8
135°	244.5	269.6	292.6	312.7	330.1	340.7	347.0	349.5
137.5°	235.8	256.4	276.2	293.7	308.2	319.0	324.3	326.0
140°	230.8	248.8	265.7	280.9	294.4	304.3	309.9	309.6
142.5°	226.0	241.4	256.1	269.3	280.8	289.6	294.6	294.3
145°	220.2	231.8	243.1	253.4	262.2	269.6	272.5	273.2
147.5°	215.4	224.7	233.8	241.1	247.8	252.8	255.5	255.8
150°	212.0	220.2	227.6	234.3	239.6	243.5	245.6	245.6
152.5°	208.9	215.9	222.5	228.1	232.2	235.8	237.1	237.1
155°	204.3	209.9	215.2	219.4	222.6	225.5	226.2	226.5
157.5°	199.3	204.0	208.1	211.5	214.2	216.3	216.9	216.8
160°	196.5	200.4	203.9	206.4	208.8	211.0	211.0	210.6
162.5°	193.1	196.4	199.7	201.9	203.5	205.3	205.3	205.0
165°	188.7	190.8	193.3	195.1	196.5	197.9	197.5	197.5
167.5°	184.9	186.5	187.9	189.2	189.8	190.8	190.5	190.5
170°	182.3	183.4	184.8	185.5	185.9	186.6	186.2	186.2
172.5°	180.1	180.9	182.0	182.4	182.5	183.2	182.6	182.3
175°	177.0	177.4	178.1	178.1	178.1	178.5	178.1	177.8
177.5°	175.1	175.4	175.7	175.7	175.4	175.7	175.1	175.1
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6

(END OF REPORT)